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LIST OF ABBREVIATIONS

American Recovery and Reinvestment Act (ARRA)

Decontamination and Decommissioning (D&D)

Department of Energy (DOE)

Environmental Management (EM)

Historically Black Colleges and Universities (HBCU)

Impact Analysis for Planning (IMPLAN)

Managing and Operating (M&O)

Metropolitan Statistical Area (MSA)

Mixed Oxide Fuel Fabrication Facility (MFFF or MOX)

National Nuclear Security Administration (NNSA)

Pit Disassembly and Conversion Facility (PDC)

Salt Waste Processing Facility (SWPF)

Savannah River Ecology Laboratory (SREL)

Savannah River Nuclear Solutions (SRNS)

Savannah River Site (SRS)

Savannah River Site Community Reuse Organization (SRSCRO)

United States Bureau of Economic Analysis (BEA)

Wackenhut Services Incorporated (WSI)

EXECUTIVE SUMMARY

The purpose of this study was to determine the economic impact the Savannah River Site (SRS) has on a five-county region in South Carolina and Georgia based on Fiscal Year 2010, a snapshot in time. This report is divided into eight major sections. The first sections provide a background of SRS and the Site's significance to the region. Economic analysis methodology, approach, and description of the area then follow. Results of current and future economic impacts can be found in the concluding sections.

The operations at SRS create jobs, generate income, and contribute to the tax revenues across both South Carolina and Georgia. When economic multipliers are factored in, the economic ripple effect is enormous. Despite its significance in recent years, there has been little understanding beyond qualitative observations about the value of SRS's contributions to the region, and what that impact means in quantifiable terms. Consequently, this study examines both SRS's value to the economy, as well as its overall impact on five specific counties in the region. Those counties are Aiken, Allendale, and Barnwell in South Carolina and Richmond and Columbia in Georgia. These counties were chosen because this is the area which comprised SRS's major area of influence when the Savannah River Site Community Reuse Organization (SRSCRO) was established as the Department of Energy (DOE) designated CRO for SRS. For the purposes of this report, these counties will be referred to as the "five-county area", "five-county region", or "local economy".

A broad overview of the local economy is provided in this study, including a discussion of current economic conditions versus state and national data. The analysis also evaluates economic trends within the five-county region. The broad economic indicators have also been analyzed and applied to the specific situation of SRS's economic impact. To complete the final product, the researchers used both primary and secondary data. In addition, the study used various data collection and analysis methods, and a tested economic impact model to measure SRS's impact on jobs and economic output in absolute and relative terms.

The American Recovery and Reinvestment Act (ARRA) or "Stimulus" project funds were not included in this assessment. This is because the federal government's "Stimulus" program was only a one-time economic spark, whereas the purpose of this study was to research the current, stable impact of SRS while at the same time looking well into the future. (It should be noted that all of the members of the research team involved in this report had input into a similar economic impact study of ARRA-expended funds in the same five-counties).

Key Points about the Economic Impacts of the Savannah River Site

- SRS plays a major role in the economy of the region.
- Total yearly budget of SRS for Fiscal Year 2010 is \$2.386 billion. Of that \$1.191 billion was spent in the five-county region (through payroll and procurement). These expenditures generated an <u>additional</u> \$1.195 billion in output, through the **output multiplier**¹ **effect of 2.003** [\$1.191B x 2.003 output multiplier = \$2.386 B].
- SRS employs 10,967 highly skilled technical personnel with an average salary of \$85,000 per year. Furthermore, 9,258 SRS workers reside in the five-county region.

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¹ See Section 7.4 for detailed explanation of multipliers.

- In 2010, the 2.513 employment multiplier increased the 9,258 SRS jobs held by employees living in the five-county area to a total of 14,004 <u>additional</u> jobs. This brought the total jobs created by SRS in the five-county region to 23,262, once direct and indirect effects are taken into account.
- Annually, SRS operations contribute to an average increase of \$1,600 per household some households more than others. Overall, for the five-county area, the total SRS economic effect on household incomes is \$853 million.
- SRS employees and operations contribute significantly to tax revenue benefits for state and local economies, as well as the federal government. The total federal, state, and local tax impact amount is \$318 million.
- SRS also contributes to the local economy by a mechanism known as "Payment in Lieu of Taxes". Payments in Lieu of Taxes is federal compensation to local governments that help offset losses in property taxes due to non-taxable federal lands within their boundaries. Last year the federal government allocated \$6.2 million to three of the five area counties: Barnwell \$4,506,166, Aiken \$1,620,000, Allendale \$89,508.
- The economic impacts reported by the current study are ongoing, and stay in the area for an additional 12 months due to the economic spill down effect.
- The analysis of economic impact on changes in SRS expenditures and employment is conducted by changing the SRS outlays by \$100 million increments. It should provide economic developers and decision makers with an instrument for estimating regional economic impact either higher or lower based on the proposed SRS project or program.
- The average salary of local workers at SRS is approximately \$85,031 as compared to the average salary of \$35,427 in the five-county area. This indicates that one job created at SRS has approximately the same overall employment impact in the local economy as 2.38 average paying jobs elsewhere.
- The replacement factor of one of SRS employment also reveals that a loss of one job at the Site will require the local economic developers to create nearly two and one-half additional jobs to compensate for the loss.

Future Condition

Since there is not a predictive model for a situation such as SRS's – meaning there are too many unknowns as to missions, projects, magnitude of budgets, etc., – the research team developed a broad method to aid in predicting the economic impact of SRS activities on the local area. As mentioned previously, the analysis of economic impact on changes in SRS expenditures and employment is should provide economic developers and decision makers with an instrument for estimating regional economic impact either higher or lower based on the proposed SRS project or program.

Every \$100 million change (up or down) in SRS spending results in an approximately \$50.6 million change in SRS expenditures in the five-county area and, plus or minus, 400 SRS employees from the region. The <u>total</u> employment impact of a \$100 million change in SRS expenditures is 989 jobs and a \$101.4 million negative or positive impact on output.

Conclusion

The existence and operations of SRS have a far-reaching effect on the local economy. Due to the number of jobs created, output produced and added, and income and tax revenue, SRS is a key economic player in the local five-county region. The local South Carolina and Georgia economies greatly benefit from the funding and projects at the Savannah River Site.

Without continued SRS funding or new future missions, local employment will continue to shrink, and this would strongly affect local productivity, output, income, and tax revenue. This could be offset by new missions at Ft. Gordon or large-scale regional industrial projects. However, given the higher SRS salaries and benefits, many more non-SRS jobs would have to be created to compensate for the loss in SRS positions.

There are no large-scale new missions or projects on the horizon. Regrettably, the exact long-term estimate of changes in SRS's budget and employment caused by phasing out existing projects or adoption of new missions will be speculative. However, prediction of the efficacy of new missions was not the purview of this report.

Site management predicts that the transition from primary Environmental Management activities to a focus on nuclear non-proliferation, sustainable energy, and national security missions will be made. However, when this will occur is uncertain. Even more undefined is the magnitude of the economic impact.

SECTION 1.0 INTRODUCTION, OBJECTIVES, AND SCOPE OF WORK

This report's sponsor is the Savannah River Site Community Reuse Organization (SRSCRO). The SRS Community Reuse Organization is a 501(c)(3) private non-profit organization charged with developing and implementing a comprehensive strategy to diversify the economy of a five-county region in the Central Savannah River Area of Georgia and South Carolina. SRSCRO counties include Aiken, Allendale, and Barnwell in South Carolina and Richmond and Columbia in Georgia.

The O'Connell Center for Executive Development at the University of South Carolina Aiken assembled a team of experts particularly suited for this study. It includes specialists from schools of business from two regional universities, Augusta State University and the University of South Carolina Aiken; the school of business from a regional HBCU (Historically Black Colleges and Universities), Claflin University; and an expert in economic impact and new mission planning from Savannah River Nuclear Solutions (SRNS), the Management and Operations Contractor at the Savannah River Site. These professionals are all authorities on economic impact with a special concentration on SRS.

The Savannah River Site generates significant economic benefits for the five-county area. Operations at SRS create jobs and income, and contribute to the tax revenues across both South Carolina and Georgia. SRS plays an important role in the economic structure of these communities. With more than 10,967 people employed at SRS, it is one of the largest employers in South Carolina (only Wal-Mart employs more people). Despite its employment status, there has been little understanding beyond qualitative observations about the value of SRS's contributions to the region and what that recent economic impact means in quantifiable terms.

This study also provides a broad overview of the local economy, including a discussion of current economic conditions versus other U.S. markets of similar size and demographics. The study evaluated economic trends within the five-county area and the broad economic indicators are analyzed and discussed.

The American Recovery and Reinvestment Act (ARRA) or "Stimulus" project funds were not included in this assessment. This is because the federal government's "Stimulus" program was only a one-time economic spark, whereas the purpose of this study was to research the current, stable impact of SRS while at the same time looking well into the future. (It should be noted that all of the members of the research team involved in this report had input into a similar economic impact study of ARRA-expended funds in the same five-counties).

During the past several decades, the economy of the five-county area has fared worse than the national economy in terms of income, employment, job creation, and tax collection. For example, historical trends for the three South Carolina counties show that the per capita income levels for Aiken, Allendale, and Barnwell have consistently been below the national average. However, one positive feature apparent from historical trends is that per capita income in all five counties is consistently increasing. During the time of this study, only one of the five local counties had an unemployment rate below the national average and that was Columbia County with a respectable unemployment rate of 5%. Allendale and Barnwell's unemployment rates stood at 17% and 11%, respectively. The average unemployment rate for the entire local economy stood at 9%, near the national average.

In the recent past, the numbers of employees and the annual budget at SRS have been significantly impacted by new or proposed missions. For example, in September 1991, there were 25,180 workers employed at the Site. This number decreased to 10,967 in September 2010, while annual expenses at SRS increased from \$2.031 billion in 1991 to \$2.386 billion in 2010.

This study's main goal was to determine the economic impact that the Savannah River Site has on the five-county area. As a further goal, SRSCRO challenged the research team to provide a look into the future economic impact of SRS. With SRS's future missions uncertain, the current economy in a slowdown, inflationary measures starting to rise, and government budgets stressed, this was no easy task. However, with the assistance of economic modeling coupled with the academic and experiential diversity of the team, this challenge was undertaken.

In addition to this significant economic impact on the local labor market, SRS spending increases the state and local output production for both South Carolina and Georgia. Furthermore, SRS spending of \$1.191 billon in the five-county area increased the total industrial production and corresponding output. In 2008, 440 combined local industries generated approximately \$34.88 billion in output production. Due to direct, induced, and indirect effects of SRS spending the local output is expected to increase by an additional \$2.388 billion. This represents 6.84% of the total local output production.

In terms of household income (which is another measure of economic activity) the study indicates that annually, SRS operations contribute to an average increase of \$1,600 per household – some households more than others. Overall, for the five-county area, the total SRS economic effect on household incomes is \$853 million.

SRS employees contribute significantly to tax revenue benefits for state and local economies, as well as the federal government. The total federal, state, and local tax impact amount is \$318 million. Out of this amount, the state and local tax impact amount is \$126 million. The most important state and local tax benefits result from sales taxes (\$42.43 million) and property taxes (\$35 million), followed by personal income taxes (\$19 million). These tax benefits contribute to numerous public goods and services received by the local communities. Similarly, impressive federal tax impacts result from SRS operations. A total of \$192 million is contributed to federal tax revenue. The most significant contributions result from the social insurance tax (\$109 million) and personal income tax (\$56 million).

SRS also contributes to the local economy by a mechanism known as "Payment in Lieu of Taxes". Payments in Lieu of Taxes is federal compensation to local governments that help offset losses in property taxes due to non-taxable federal lands within their boundaries. Last year the federal government allocated \$6.2 million to three of the five area counties: Barnwell - \$4,506,166, Aiken - \$1,620,000, Allendale - \$89,508.

The Department of Energy's (DOE) nine organizations at the Savannah River Site have a significant impact on the local five-county area. During Fiscal Year 2010, SRS's budget was \$2.353 billion. Out of that amount, SRS spent \$1.191 billion within the local five-county area, thus greatly and positively stimulating the local economy. The \$1.191 billion in direct expenditures lead to an additional \$825 million in indirect effects and an additional \$370 million in induced effects for a total of \$2.386 billon, through the **output multiplier effect of 2.003** [\$1.191B x 2.003 output multiplier = \$2.386B].

As a result of this spending, the local labor force market was enriched by a total of 23,262 preserved or newly created jobs. These jobs represent 12.09% of the local labor force. In 2010, the **2.513 employment multiplier** increased the 9,258 SRS jobs held by employees living in the five-county area by an additional 14,004 jobs, bringing the number of total jobs to 23,262 [9,258 x 2.513 employment multiplier = 23,262].

It is important to note that these positive economic effects are not one-time events because it takes approximately one year for the funds to work through the local economy. In addition to having a positive effect on the local economy, SRS operations also have a continuous economic effect on the federal, state, and local tax revenue levels.

Because SRS's budget is so large, it has an economic reach beyond the five-county area. Consequently, where it can be identified, the impact on South Carolina and Georgia outside the five-county region has been included. The following figure demonstrates the flow of federal dollars to and from the five-county area.

Figure 1.0.a: Federal Funds Going Into and Flowing Out of the Savannah River Site

